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"Enhancing brand engagement through social media video content: A quantitative analysis of tech brands on YouTube Shorts"

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Abstract

This study aims to understand the role of social media content on users' engagement behavior. More specifically, the direct effects of brand prominence and content richness on users' passive and active engagement behavior; and the moderator effect of video content on the link between each content type (Functional, Emotional, and Functional × Emotional) and users' engagement are investigated. In addition, the effectiveness of different content types on affecting users' engagement are compared. The dataset analyzed contained 424 videos from 15 brands in the tech industry from YouTube Shorts. The results reveal that the effectiveness of social media content on users' engagement is moderated by content richness but not brand prominence; Emotional appeals show the highest performance among the three content types investigated on stimulating both active and passive engagement. The findings provide important new insights regarding social media engagement on an emerging platform important for academics and managers.

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1.0 Introduction

In recent years, content marketing has become a buzzword, and it is being hailed as the future of marketing in the digital economy (Baltes, 2015). For internet users, it is a crucial source to search for information on products and services (Mangold & Faulds, 2009). While for brands, it has become one of the most effective digital marketing tools to build brand awareness, engage with their target audience, and foster customer relationships (Sabate et al., 2014).

To retain or enhance competitiveness in the digital market, any company must create marketing content tailored to its target audience and effectively distribute it through appropriate social channels (Baltes, 2015). As consumers today live in a content-rich and time-poor environment (Tellis et al., 2019), they are discerning about what content they consume and share. In that context, short videos are becoming favored by more and more users and marketers due to its adaptation to the fast-paced life. However, the literature on content type and social media engagement is sparse, especially for short videos (Kanuri et al., 2018).

Previous studies (i.e., Dolan et al., 2015; Shahbaznezhad et al., 2021) have drawn attention to the relationship between social media engagement and content type. However, the available literature is constrained in terms of platform options, content type classification, and utilization of primary data, as demonstrated through a survey. For example, much of the earlier research (i.e., Coelho et al., 2016; Shahbaznezhad et al., 2021) towards social media engagement is based on "mainstream platforms", such as Facebook and Instagram, and mainly study posts in the form of image, text and video. Thus, our understanding and insights towards the role of content type on users' engagement are limited to these studies. However, with the continued development of platforms, the function of short videos is quickly becoming a main feature to influence consumers' social media engagement (Von Der Osten, 2022). Thus, users' engagement behavior, based on this emerging platform, needs further study and understanding. Moreover, our understanding towards the content types are limited to informational vs. emotional (De Vries et al., 2012), while other content types should be researched to gain a deeper understanding as well. Despite the numerous insights from previous work on the

role of content type on users' engagement, very few studies (i.e., Tellis et al., 2019) have considered the role of brand prominence and content richness on predicting users' engagement behavior. Finally, most of the relevant studies employ survey methods to collect primary data (Voorveld et al., 2018), yet this is not always comparable with findings from secondary data.

In response to the aforementioned limitations, this study aims to provide a more in-depth and holistic investigation of social media engagement based on YouTube Shorts. In this study, the following research question is asked:

How video content type affects consumers' active and passive engagement behavior, and how brand prominence and content richness moderate this effect?

In particular, this study examines: (i) the impact of brand prominence and content richness on users' passive and active engagement behavior, (ii) the role of video content as a moderator in the relationship between each content type (Functional, Emotional, and Functional×Emotional) and users' engagement, and (iii) a comparative analysis of the effectiveness of different content types in influencing users' engagement.

This research will make a valuable contribution to the existing literature and pave the way for further exploration in the field. Specifically, the study addresses a significant gap in academic knowledge by focusing on the relatively new and emerging video format of shorts. Previous research in this area is limited, particularly in terms of examining shorts across different platforms. Therefore, this research concentrates on YouTube Shorts, aiming to investigate the relationships between video content type, consumer engagement, and the moderating effects of content richness and brand prominence within the context of YouTube Shorts.

Further, in the digital era of business transformation, marketers face the challenge of effectively navigating the social space to attain optimal returns on their investment (Lee et al., 2018). Given the immense popularity of short videos among users, it is crucial for marketers to gain a deeper understanding of this emerging feature and leverage it to enhance their marketing efficiency. This study delves into

the influence of various content types on engagement and examines the roles of brand prominence and content richness within the video format. By providing critical insights, this research holds significant value for marketing managers. It equips them with the knowledge to develop more effective video strategies that resonate with their target audience, make informed decisions regarding marketing investments, and allocate resources wisely. Ultimately, this study contributes to achieving business growth and success in the dynamic digital landscape.

To address the research question, this study first collect data from YouTube Shorts. The authors relied on a quantitative machine learning approach through the application programming interfaces (APIs) provided by Data Miner, to collect the first part of our data, and applied a qualitative content analysis approach in two independent coders to collect the second part of the data. After data collection and data wrangling, the authors analyzed 424 videos from 15 brands in the tech industry from YouTube Shorts using multiple linear regression and independent sample t-tests to gather information about correlations and find significant values in the studied variables.

The results reveal that the effectiveness of social media content on users' engagement is moderated by content richness but not brand prominence; Emotional appeals show the highest performance in stimulating both active and passive engagement among the three content types investigated. The findings will provide critical new insights regarding social media engagement on an emerging platform important for academics and managers.

The remainder of the paper is structured as follows. First, this thesis introduces the background of this study. It maps out relevant secondary research from various sources to provide an overview of existing studies, theories, and beliefs regarding our research question before presenting the conceptual framework and hypothesis. Furthermore, the research context and study design will be presented in the methodology. After displaying the study results, this thesis outlines the discussion of the findings, followed by theoretical and managerial contributions. Finally, the study limitations and a range of ideas recommended for future research will be presented.

2.0 Literature review

The literature review will map out relevant secondary research from various sources to get an overview of existing studies, theories, and beliefs regarding the matter at hand. In the following sections, this study will present the selected literature on content type, content richness, brand prominence, and customer engagement to serve as a foundation for our research and explain our hypothesis's background.

2.1 Content marketing

In recent years, content marketing has surged in popularity, and it is expected to play a critical role for marketing in the digital economy (Baltes, 2015). According to Oxford Languages, content marketing is "*a type of marketing that involves the creation and sharing of online material (such as videos, blogs, and social media posts) that does not explicitly promote a brand but is intended to stimulate interest in its products or services*". Any company that wants to become or remain competitive in the digital market must develop marketing content adapted to its targets and distributed by the right social networks (Baltes, 2015). Based on responses from global marketers in early 2020, content marketing was believed to be the most effective marketing technique, with almost half of marketers planned to increase their content marketing budgets in 2023 (Vermes, 2023).

Furthermore, evidence shows that content marketing reduces costs by approximately 62% compared to traditional marketing methods while generating three times as many sales (Perez, 2020). In a way, the success or failure of the company's online communication depends significantly on the quality of its content marketing. Despite a growing focus on content marketing as a strategic marketing tool, the existing body of literature on content marketing remains limited, particularly when it comes to the examination of video content (Kanuri et al., 2018). Therefore, this is regarded as a gap in previous literature that should be examined further.

According to Kotler et al. (2016, p. 121), content marketing can be defined as something that "Involves creating, curating, distributing, and amplifying content

that is interesting, relevant, and useful to a clearly defined audience group to create conversations about the content".

Many studies have previously focused on sponsored content and user-generated content. Boerman et al. (2014, p. 215) describes sponsored content as "the international incorporation of brands, products, or persuasive messages into traditionally noncommercial, editorial content". While user-generated content is defined by Krumm et al. (2008, p. 10) as "content that comes from regular people who voluntarily contribute data, information, or media that then appears before others in a useful or entertaining way, usually on the Web". The findings indicate that, compared to user-generated content, sponsored content leads to a higher conceptual persuasion knowledge, resulting in a higher attitudinal persuasion and a more negative brand attitude (Müller & Christandl, 2019). Similar result was found by Mayrhofer et al. (2020), that user-generated content did not trigger persuasion knowledge and a subsequent negative effect. Thus, user-generated content led to higher purchase intention compared to disclosed advertisement and brand posts (Mayrhofer et al., 2020). However, social media, especially user-generated content, is a relatively young field of research (Wyrwoll, 2014).

For the brand accounts on social media platforms, content marketing is perceived similarly to user-generated content (Müller & Christandl, 2019) and is an advertising phenomenon (Einstein, 2016). The previous literature about emphasizing brand prominence in content marketing could be more controversial. Kim and Ko (2012) argue that content marketing can be an effective tool for building brand image, particularly when it is used to communicate the brand's values and personality. Huang (2010) found that brand storytelling can be a powerful tool for building brand image, particularly when it is used to communicate the brand's values, personality, and history.

However, viewer's awareness that content is commercial can create resistance to persuasion (Friestad & Wright, 1994). Teixeira et al. (2010) also argue that although advertisers often want their brand name to be prominent to encourage recall at the time of purchase, a prominent brand name can also activate persuasion knowledge by triggering thoughts about the advertiser and their commercial motives. Such a

process can make consumers resistant to the message. Instead, more customer-centric oriented content provides a better opportunity to engage in consumer dialogue than pure brand advertising (Wilson et al., 2020). The idea of content marketing is to convey information to the consumers that they can use to reach personal and professional objectives (Kotler et al., 2016), providing customers with high-quality original content while telling exciting stories about their brand. Holliman and Rowley (2014) research provides a fundamental insight into content marketing practices, stating that content produced for content marketing should be free of selling messages and instead focus on customers' specific interests. However, the content that balances brand prominence and customers' specific interests is not explored deeply in previous literature.

2.2 Social media engagement

Social Media is one of the most prevalent channels through which customers engage with a brand, and businesses are recognizing the need to engage where current and potential customers are paying most attention (Baird & Parasnis, 2011).

Many studies have explored the concept of customer engagement. Bowden (2009, p. 65) defined customer engagement as "*a psychological process by which customers move towards being brand loyal*". Similarly, Islam and Rahman (2016, p. 42) explain customer engagement as an "*approach to create, build and enhance customer relationship*". Kumar and Pansari (2016, p. 499) further define engagement as "*attitude, behavior and the level of connectedness*". These studies present that the more positive attitude and behavior a consumer has, the higher level of engagement. Thus, from consumers' engagement behaviors, marketers can detect customers' attitude towards a certain marketing activity, which can help them adjust their strategy for a better performance.

The extent of engagement differs from simple types of engagement (i.e., "Liking" a post) to deeper types of customer engagement in co-creation activities (i.e., "commenting" a post) within the context of social media (Shahbaznezhad et al., 2021). The interactive characteristics of engagement behavior may lead to different levels of intensity, which further cater to different goals of marketing strategies.

Dolan et al. (2015) position social media engagement behavior on a continuum of intensity, from low (Passive) to high (Active) activity (Muntinga et al., 2011). Passive engagement refers to the behavior of members browsing an online group and making the most of the benefits accessible, while not participating in any community activities (Dolan et al., 2015). In contrast, active engagement represents a higher level of engagement behavior by participating in activities, creating messages, and so on (Dolan et al., 2015). There are different metrics to measure active and passive social media engagement, and the metrics used in previous studies (i.e., Dolan et al., 2019; Swani & Labreque, 2020; Shahbaznezhad et al., 2021) are mainly based on likes, shares and comments.

In another study done by Dolan et al. (2019), they classified consuming as a passive engagement behavior, and liking, sharing, and commenting as active engagement behavior when they studied informational, remunerative, entertaining and relational content. However, in a model proposed by Swani and Labrecque (2020), for why people engage through the different metrics, they argued that likes are "sender focused" and the motivation to engage in this way is related to brand relationship connections, while sharing is receiver focused, with self-presentation as motivation. Meanwhile, in the model they place comments in the middle between likes and shares. Furthermore, in a study by Shahbaznezhad et al. (2021), they use likes as a passive engagement metric and comments as an active engagement metric when they looked at the role of social media content format and platform in users' engagement behavior. With the studies having different objectives, it is difficult to compare or argue against how they classify engagement metrics. However, it always makes sense to minimize the bias effect caused by views when choosing engagement metrics, as Gupta et al. (2016) mentioned that there is a positive correlation between views and likes.

Previous studies show that social media engagement based on several different platforms and the way brands use the platforms are most significant (Voorveld et al., 2018). For example, Facebook and Instagram are more efficient when utilized as a promotion that provides hedonic benefits to users rather than commercial benefits through direct promotion of services, products, and prizes (Vaiciukynaite et al., 2018). One study by Voorveld et al. (2018, p. 38) studied engagement in the

context of social media and social media advertising on several platforms pointing out that "*A different set of experiences is related to advertising evaluations on each platform*". They found that Snapchat and YouTube scored highest on the entertainment use, while Pinterest scored highest on the practical use. Furthermore, the result shown in the study by Shahbaznezhad et al. (2021) also provides sufficient evidence that users' behavior on the firm's fan page is influenced by the social media platform environment. The finding confirms that firms' fan page users on Instagram tend to "Like" more than generate "Comments", however, Facebook triggers more active engagement (i.e., comments). Although platforms have shown significant effect in the creation of engagement, no research has studied engagement based on the emerging platform YouTube Shorts that the authors are aware of. Thus, this is regarded as a gap in previous research.

2.3 Social media content type and users' engagement

There are many ways to classify the content type to study consumers' engagement behavior. Based on prior studies, social media content influencing engagement is mainly categorized into rational (i.e., informational, functional, etc.) and emotional (i.e., relational, remunerative, entertaining, etc.). Rational or informational advertising appeals seek to reach the target audience's intellect by transmitting a series of logical information relevant to them and making a direct presentation of the facts to appeal to reason, thinking, and awareness without any kind of emotion present in the message (Flora & Maibach, 1990). Emotional appeals in social advertising are also used to persuade society as a whole to adopt behavior that favors social and individual well-being (Brennan & Binney, 2010) by conveying emotions by stimulating positive effects, such as enthusiasm, or adverse effects, such as fear and regret (Casais & Pereira, 2021).

Several studies have investigated the role of rational and emotional content on social media, providing mixed and inconsistent results in facilitating online engagement behaviors. For example, Taylor et al. (2011) found consumers to react most favorably to advertising which is perceived as offering information of value. Similarly, Dolan et al. (2019) found that rational appeals in social media have a superior effect in terms of facilitating active and passive engagement among social

media users after studying 12 wine-brands on Facebook posts. In contrast, Lee et al. (2014) studied the effect of advertising content on consumer engagement, and found that informative content (i.e., mentions of prices, availability, and product features) reduce engagement. However, Coelho et al. (2016) found no significant relationship between the effect of rational content on engagement on both Facebook and Instagram. These contradictions highlight the importance of further exploration.

Further, Dolan et al. (2019) empirically demonstrated that rational content influences engagement in the form of likes (passive engagement), but it does not influence active engagement (such as comments). This study was however restricted and limited by platform (Facebook only) as well as context (only wine brands were explored) (Shahbaznezhad et al., 2021).

Regarding emotional content, several scholars have presented similar results regarding the relationship between the use of emotional social media content and its influence on customer engagement. Berger and Milkman (2012) confirmed that content (online news articles) that evokes high-arousal, positive (awe) or negative (anger or anxiety) emotions, is more likely to go viral and engage by following a multi-method approach. Dolan et al. (2019) found that emotional appeals facilitate passive rather than highly active engagement behavior, despite the social and interactive nature of the digital media landscape. Similar findings have also been shown by Dolan et al. (2019), that entertaining content influences engagement in the form of likes but does not affect active engagement in the form of comments. However, this finding is contradictory to a study by Shahbaznezhad et al. (2021), where the findings showed that emotional videos stimulate active engagement, while photos stimulate passive engagement. These findings need to be more generalizable, as the authors underestimated the essential roles of the message types (i.e., video, images, and text) and platforms of engagement (any other than Facebook and Instagram) (Shahbaznezhad et al., 2021).

In terms of the effectiveness of emotional and rational appeals in social marketing, Taute et al. (2011) and Teichert et al. (2018) believe that emotional content is more effective in leading to significant viewer engagement, but the research of others offers contradicting results based on static traditional media settings (i.e., Aakeret

al., 1986; Liu & Stout, 1987) (Shahbaznezhad et al., 2021). The limit of either the platform or industry could cause varied results. Thus, in short videos, which type of content works more efficiently still needs to be discovered.

Further, the characteristics of both rational and emotional appeals are identified in social media advertising, and are used to increase the target audience's response levels (Helmig & Thaler, 2010). However, studying the mix effect of informative and emotional content on social engagement behavior is quite rare. The only research found studying a mix of emotional and rational/informational tones was written by Ruiz and Sicilia (2004), which showed that campaigns with a mix of emotional and rational/informational tones could generate more effective attitudes than when these appeals are used separately. However, little is known about which forms of engagement it will stimulate.

Previous literature also explored the role of transactional content, focusing on using direct calls to purchase and promotions (Swani et al., 2013). However, inconsistent and conflicting results have been detected by several scholars. The work of Cvijikj and Michahelles (2013) and Dolan et al. (2019) explored the concept of transactional content under the label of "remunerative" content. Cvijikj and Michahelles' (2013) results are consistent with the work of Swani et al. (2013), showing that the use of remunerative content significantly reduced the number of likes (passive engagement). However, Dolan et al. (2019) found conflicting results, indicating that the use of remunerative content has a significant, positive effect on likes and shares (passive engagement) but not comments (active engagement). Tellis et al. (2019, p. 4) also classify the content into commercial and non-commercial. They define "commercial content" as "*content that aims to influence behavior in favor of a branded product or service*". In contrast, "non-commercial content" refers to content used "*not primarily intended for or directed towards commercial advantage or monetary compensation*". Compared with non-commercial material, Prior theory (Friestad & Wright, 1994) indicates that the activation of such persuasion knowledge" (commercial content) can cause consumers to discount or counter-argue from persuasive messages.

These varied results indicate a need for further and more robust theoretical and empirical examination of the role of different content types in social media to understand their use and relationship with engagement behavior fully. Furthermore, the previous study of the effect of content type on social media engagement mainly focused on a singular platform or a particular format context, limiting the understanding of the diverse nature in which content can be presented and delivered to social media users. However, with the development of technology, short videos are gradually becoming a trend to influence customers' social media engagement. How content type in the short video format affects customer social media engagement is worth studying due to its marketing benefits. The videos with both functional and emotional presence should also be further explored to elaborate on our understanding of customer social media engagement behavior.

2.4 Video content and users' engagement

2.4.1 Brand prominence

Brand prominence is usually seen as "*a construct reflecting the conspicuousness of a brand's mark or logo on a product*" (Han et al., 2010, p. 15). However, this thesis looks at brand prominence as a construct reflecting the conspicuousness of a brand's mark or logo in a video. Brands can produce videos with "loud" or conspicuous branding by having a prominent logo and brand name, or they can tone it down to "quiet" with discreet branding by adding another focus or appeal to the video.

Some previous findings provide insights into brand placement in the video. The literature on brand placement in audio-visual media such as film has shown that "*placement prominence is positively related to brand memory*" (Van Reijmersdal, E, 2009, p. 151), and the overriding message is that the more prominent, the better the audience memory.

Moreover, although advertisers often want their brand name to be prominent to encourage recall at the time of purchase, a prominent brand name can also activate persuasion knowledge by triggering thoughts about the advertiser and their commercial motives. Such a process can make consumers resistant to the message (Teixeira et al., 2010). Thus, some brands want a quieter brand prominence so that

viewers are not aware of the content being commercial and create resistance to persuasion (Friestad & Wright, 1994). If consumers resist ads with strong commercial content because they activate persuasion knowledge, they are unlikely to share such ads with others. It has also been found by Akpinar and Berger (2017; Studies 1 and 2) that consumers were more likely to share ads when the brand was integral to the narrative. One study by Matthes et al. (2007) pointed out both sides of the argument when they studied brand prominence within media programming. They found that loud brand prominence resulted in high memory scores but negative brand attitudes among those viewers who showed awareness of the deliberate brand placement and had low involvement with the program. By contrast, prominence positively affected the brand attitudes of viewers who were highly involved with what they were watching but had little awareness of deliberate brand placement and little brand memory" (Matthes et al., 2007).

The previous research is coherent in the field. While some argue that loud brand prominence might trigger a defense for persuasion in the consumer, it is a common understanding that it often can enhance brand memory. Quiet brand prominence is more favorable than loud brand prominence when aiming for brand attitude. Regarding engagement, previous literature mainly study how brand prominence affects sharing. However, other types of engagement, such as liking and commenting, should also be studied to have a deeper understanding of the relationship between brand's prominence and customer engagement.

2.4.2 Content richness

Media richness theory is a communication theory that was first introduced by Richard L. Daft and Robert H. Lengel in 1986 (Daft & Lengel, 1986). The theory proposes that communication effectiveness is influenced by the richness of the medium used to convey the message. Media Richness Theory is a widely known theory of media use that has been applied to multiple fields (e.g., Kaplan & Haenlein, 2010; Liu et al., 2009; Tseng et al., 2017). When it has been applied in the field of online and digital marketing, the term "rich media" in this context provides an umbrella expression to describe online content that has multi-media elements such as sounds, video, or content that moves when a user clicks on the

page that features the content (Shaw et al., 2009). Past studies on media richness focus on studying the different effects of text, image, and video and the combination of text and image on customers' social media engagement. Sabate et al. (2014) proposed that while both photo and video contents increase engagement in the form of likes (i.e., passive), surprisingly, the posts which contain video content did not significantly affect active engagement (comments). In another study, Kim et al. (2015) found that posts with photo content stimulated higher customer engagement (in the form of likes, comments, and shares) compared to "richer" content, such as video posts.

As the research goes deeper into the field, exploring the relationship between rich content types in a particular social media format, social media users' engagement becomes increasingly more important due to managerial reasons. To improve marketing efficiency, marketers need to know which channel to invest in, and the specific features of the posts in a particular channel will affect customers' social media engagement.

There is significant literature on understanding firm-generated social media images and users' engagement behavior. Klostermann et al. (2018) conducted a study using data from Instagram to investigate the impact of different types of information (image, text, and social tagging) on consumers' brand associations and perceptions. The authors found that image content is the most critical factor in shaping consumers' brand associations and perceptions. Images that featured the brand's logo, products, or distinctive colors were particularly influential in shaping brand perceptions; text content provided additional information and context that helped reinforce brand associations. Text content that mentioned the brand's name, products, or values was particularly effective.

Li and Xie (2020) found that image content, including visual cues such as color, composition, and content themes, significantly impacted social media engagement. Posts with visually appealing images received higher engagement rates than those with less visually appealing images. Overgoor et al. (2022) found that consumers prefer complex social media images over simple ones. They suggest that complex images capture attention and create interest, which leads to higher liking and

engagement. However, there is a limit to the level of complexity that consumers find appealing. Images that are too complex can lead to confusion and decreased liking. Therefore, firms need to strike a balance between complexity and simplicity.

However, the research related to firm-generated social media videos and users' engagement behavior is still at the initial stage, mainly focused on exploring how video quality and emotional appeal affect customer engagement. Dobrian et al. (2011) argue that high-quality videos with compelling content are more likely to engage users. However, which elements in the video that drives the compelling is still unknown. Li and Xie (2020) found that videos that evoke strong emotions like happiness, excitement, or sadness tend to generate higher engagement rates on social media platforms. The authors argue that emotional appeal can be a powerful tool for marketers to increase the virality and impact of their videos on social media.

Moreover, Tellis et al. (2019) brings an illuminating perspective, unveiling the idea that drama, plot, and surprise function as affirmative drivers of emotions capable of nurturing the act of engagement. Their insightful discoveries imply that storytelling possesses a prowess to actively captivate individuals, making them more likely to engage with the content. However, which element shown in the video that evoke emotions still needs further study. Whether elements, such as people, animals, text, voice, and music, included in the video would affect users' engagement behavior and how many of these elements should be included for a high engagement rate still needs to be discovered.

2.5 The conceptual framework and hypothesis

2.5.1 Brand prominence

The persuasion knowledge model (PKM), developed by Friestad and Wright in 1994 is a theoretical framework that aims to explain how individuals respond to persuasive attempts in communication. The model suggests that individuals possess knowledge of and awareness about persuasive tactics used by communicators, which they use to interpret and evaluate persuasive messages and potentially resist them (Friestad & Wright, 1994). Individuals develop knowledge structures related to persuasion through their experiences with persuasive communication. These

structures consist of beliefs, expectations, and schemata about various aspects of persuasion, including tactics, strategies, motives, and intentions of communicators. These structures form the foundation for how individuals process and respond to persuasive messages and this awareness can be influenced by cues such as explicit advertising disclosures, persuasive appeals, or contextual factors that signal persuasive communication (Friestad & Wright, 1994).

Based on this model and previous literature, the authors can set up the logic for how consumers might react considering the variable of loud brand prominence in videos. When viewers perceive a video as brand prominent, they might feel that the content is primarily focused on promoting a brand rather than providing information or entertainment. Similar to Teixeira et al. (2010) findings on brand prominence making consumers resistant to the message. This perception can lead to a sense of being manipulated or exploited, making the consumer skeptical and feel less inclined to engage with the video. Furthermore, in videos with high brand prominence, the marketing might overshadow the message and entertainment, making the video fail to resonate or deliver beyond the brand marketing, especially for short videos where consumers have a low involvement (Matthes et al. 2007). Thus, this study believe high brand prominence will lead consumers to believe the brand is trying to persuade them, thus lowering the consumer's trust. The consumer will then activate their structures of persuasion knowledge and go into a defensive response. In result, the following hypothesis is set:

Hypothesis 1: Loud brand prominence videos negatively stimulates users' passive and active engagement behavior compared to videos with quiet brand prominence.

2.5.2 Content richness

The Media Richness Theory, developed by Daft and Lengel in 1986, is a theoretical framework that seeks to explain how different communication media vary in their ability to convey information and facilitate understanding. The theory suggests that media differ in their "richness" based on their capacity to convey multiple cues like facial expressions, tone of voice and gestures, as well as their immediacy of feedback (Daft & Lengel, 1986). Rich media provide more cues and an immediate opportunity for feedback, allowing for greater information processing and

understanding compared to lean media. Thus, rich media are more suitable for conveying complex, ambiguous, or equivocal information that requires nuanced interpretation and understanding. In contrast, lean media are better suited for conveying simple, straightforward, and unambiguous messages (Daft & Lengel, 1986).

The theory is often used by individuals and organizations to select communication-media based on task and message requirements. However, this study focuses on how the content itself conveys information effectively. Using this theory as well as previous literature, the logic for how consumers might react considering the content richness in videos is set. For this study, the richness of the content was split into two levels based on the number of "rich" variables included in the video, high and low. And based on the theory, high content richness allows for the inclusion of multiple communication cues which can give additional context and information, enabling viewers to better understand the conveyed message (Daft & Lengel, 1986). Similar to findings by Overgoor et al. (2022), that consumers prefer complex social media. Furthermore, high content richness enables for a richer storytelling and narrative in the video which has shown to be highly engaging and memorable (Tellis et al., 2019). A well-crafted story can create anticipation, emotional resonance, and a sense of immersion, all of which might contribute to increased engagement, backed up by findings from Dobrian et al. (2011) that consumers find high-quality videos with compelling content more engaging. Thus, based on those arguments, the following hypothesis is set:

Hypothesis 2: High content richness videos positively stimulates users' passive and active engagement behavior compared to videos with low content richness.

2.5.3 Functional media content

The Social Identity Theory is a theoretical framework developed by Henri Tajfel and John Turner in the 1970s that explores how individuals perceive and behave based on their membership in social groups (Tajfel & Turner, 1979). The theory posits that people derive a part of their self-concept from their identification with certain social groups and that this group membership significantly influences their

attitudes, behaviors, and intergroup relations. Furthermore, the theory explains how individuals categorize themselves and others into ingroups (groups they belong to) and outgroups (groups they do not belong to). This categorization influences perceptions of similarity, distinctiveness, and social comparison between groups. People tend to favor their ingroup and perceive it more positively, often leading to ingroup bias and intergroup discrimination (Tajfel & Turner, 1979).

In the context of this research, social identity theory might influence individuals who feel a belonging to the "ingroup" of the tech industry. This belonging might lead to higher active engagement to voice their meaning and be an active part of the community. An assumption is that this ingroup feeling might be evoked mostly by the tech products and features of innovation (functional videos), more than emotional videos. Furthermore, functional videos typically provide valuable information, tutorials or problem-solving content which might make the viewer leave comments seeking further information, sharing their thoughts, or engaging in conversations around the topic in the video, similar to the findings in Dolan et al. (2019) study, who found rational appeals to have a superior effect on engagement, and in the study by Taylor et al. (2011), who found consumers reacting favorably to information of value in advertising. Finally, the functional videos combined with the ingroup community-building, might lead to higher levels of active engagement. Thus, the following hypothesis is set:

Hypothesis 3a: Functional videos positively stimulate users' active engagement behavior compared to emotional videos.

2.5.4 Emotional media content

The Emotion Contagion Theory is a theoretical framework proposed by Hatfield et al. (1993) that seeks to explain how emotions can spread from one person to another within social interactions or group settings. The theory suggests that individuals can "catch" or be influenced by emotions through nonverbal cues, face-to-face interaction, written communication, media content, etc, leading to a synchronized emotional experience between individuals (Hatfieled et al., 1993). According to their proposal, several factors can influence the likelihood and intensity of emotion contagion. These factors include the strength and salience of the emotional display,

the perceived similarity between individuals, the social context, cultural norms, individual differences in emotional sensitivity, and the presence of situational cues that facilitate or inhibit emotional transmission.

Based on this theory, an assumption is made that emotions can be transferred from one person to another, leading to a contagious spread of emotions within social interactions on social media. The positive emotion shown in videos make the audience "catch" the emotion, making them elicit the same emotion in their consumer behavior, building on Berger and Milkman (2012) findings that positive or negative emotions are more likely to go viral. When viewers come across videos that evoke strong emotions, they might feel compelled to share the video with friends, family or followers, contributing to increased exposure and passive engagement, backed up by Dolan et al. (2019), who found that emotional videos facilitate passive engagement behavior, and Helmig and Thaler (2010), who found emotional appeals to increase audience response. In social media an easy way to express emotion is by giving likes (passive engagement). Easy because it requires very little to like a video, compared to commenting. Furthermore, a video that receives more likes, might also be more appreciated by the algorithm, thus gets more views though automatic recommendations, bringing even more likes. Thus, the following hypothesis is tested:

Hypothesis 4a: Emotional videos positively stimulate users' passive engagement behavior compared to functional videos.

2.5.5 Interaction between functional and emotional media content

Assumptions made considering both social identity theory (Tajfel & Turner, 1979) and emotional contagion theory (Hatfieled et al., 1993) resulted in a belief that functional videos positively stimulate users' active engagement behavior as the ingroup of the tech business want to voice their meaning, ask questions or engage in conversation around the topic. Furthermore, an assumption was made that emotional videos positively stimulate users' passive engagement behavior as the emotional contagion theory tells us that consumers can "catch" emotions from the video and elicit that emotion back as passive engagement. Thus, when elements of both functional and emotional characteristics are combined in a video, the

assumption is that the video brings more of both active and passive engagement behavior, backed up in the study by Ruiz and Sicilia (2014), who found that a mix between functional and emotional could generate more effective attitude changes, generating more engagement. Leading to the following hypothesis:

Hypothesis 5a: Functional × Emotional videos positively stimulate users' active and passive engagement behavior compared to either functional or emotional video.

2.5.6 Moderator effect on users' engagement behavior

As mentioned earlier, according to persuasion knowledge model (Friestad & Wright, 1994), hypothesis 1 assumed that high brand prominence negatively affects consumers' engagement behavior, as the consumer feels like the brand is trying to persuade them (Teixeira et al., 2010). Meanwhile, according to media richness theory (Daft & Lengel, 1986), hypothesis 2 assumed that high content richness positively affects consumer engagement behavior, as high content richness can lead to higher-quality videos with compelling content (Dobrian et al., 2011). Thus, when considering their moderator effect on different types of videos, the previously stated hypothesis on the relationship between content types and customers' engagement behavior might be strengthened or weakened.

In the context of functional videos, hypothesis 3a posits that this type of video positively affects users' active engagement behavior. However, it is essential to consider the potential implications of low content richness on the overall effectiveness of functional videos in terms of storytelling and narrative quality, which may affect their engagement level. Specifically, the absence of textual and vocal elements within the videos may hinder the conveyance of information on the product's functionality (Tellis et al., 2019), creating difficulties for viewers to comprehend and actively engage with the content. Additionally, when consumers perceive that a brand employs prominent branding techniques to persuade them (Friestad & Wright, 1994), they will likely resist such persuasion attempts, hence disengage from the content. Consequently, the authors propose that loud brand prominence and low content richness diminish the relationship between functional videos and active engagement. Conversely, low brand prominence and high content

richness are expected to reinforce the association between functional videos and active engagement.

Further, an assumption is made that the positive relationship based on emotional contagion theory (Hatfieled et al., 1993) between emotional videos and users' passive engagement behavior in hypothesis 4a, might be moderated by brand prominence and content richness. As Tellis et al. (2019) proposed, the plot functions as an affirmative driver of emotions capable of nurturing the act of engagement. Elements such as characters, music, and voice played an important role in drawing viewers into the plot, transporting them into their lives and experiences (Green & Brock, 2000). Thus, with high content richness, emotions might be easier to create. Moreover, in videos with high brand prominence, the marketing might overshadow the message and entertainment, distracting consumers' attention and decreasing the users' engagement with the content (Matthes et al., 2007). Thus, the positive relationship between emotional videos and passive engagement might be weakened by high brand prominence and low content richness or strengthened by low prominence and high content richness.

Similarly, the positive relationship between functional×emotional videos and customer engagement behavior from hypothesis 5a might also be moderated by brand prominence and content richness. Considering the theoretical understanding and assumptions made based on the persuasion knowledge model (Friestad & Wright, 1994) and media richness theory (Daft & Lengel, 1986), the authors believe that the positive relationship between Functional×Emotional videos and users' engagement behavior could be weakened by high brand prominence and low content richness or strengthened by low prominence and high content richness.

Thus, the following hypothesis are made:

Hypothesis 3b: The relationship between the presence of functional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness.

Hypothesis 4b: The relationship between the presence of emotional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness.

Hypothesis 5b: The relationship between the presence of emotional and functional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness.

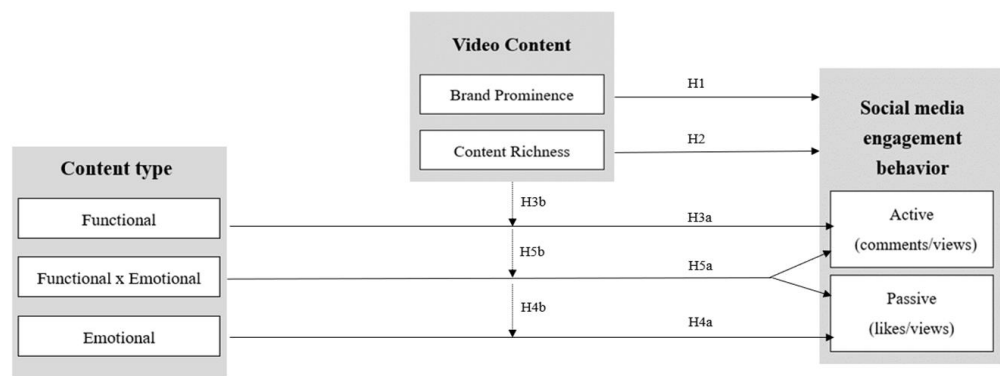Finally, here is the full conceptual framework:

Fig. 1. Research conceptual framework.

3.0 Methodology

3.1 Research context

This research study digital content marketing uploaded on tech-brands' YouTube Shorts channels, which viewers voluntarily view, and engage with through likes and comments according to their own choice. The study does not include paid ads. YouTube Shorts was chosen based on several considerations. Firstly, content marketing on YouTube offers the potential to reach a large audience (Tellis et al., 2019). According to Ruby (2023), YouTube has over 2.68 billion monthly active users who watch over one billion hours of videos daily, which attracts thousands of managers to established brand channels on YouTube. A branded channel is an account on YouTube through which a brand (a) uploads video-content, (b) communicates with users, and (c) manages video information (Tellis et al., 2019).

Secondly, as mentioned above, consumers today live in a content-rich and time-poor environment, and according to Ruby (2023), 70% of all YouTube views come from mobile devices. In this context, the short videos become favored by more and more users and managers due to its adaptation to the fast-paced life.

3.2 Brand sampling

The number of branded channels and video content on YouTube Shorts is enormous. To verify the research hypothesis, the study focused on a singular industry. In this research, the authors empirically investigated videos of well-known brand accounts from the tech industry, such as Samsung and Huawei. The industry was chosen mainly based on two reasons. First, after an initial search of videos on YouTube Shorts' brand accounts, it was found that a substantial amount of data was available on YouTube Shorts from brands within the tech industry. Specifically, 17 well-known brands in the industry were investigated, as the study aims to be generalizable for how video content affects viewers' engagement behavior in this industry rather than a specific brand phenomenon. Second, technology advances have transformed how we live, work, and communicate and as a result, new industries and jobs have been created. As new technology and products develop, people's attention towards the industry is increasing with the rapid development within the field (Laker, 2022).

According to Gartner Forecasts Worldwide IT Spending to Grow 5.5% in 2023 (2023), the tech industry reached a market value of 1,8 trillion dollars in 2022, with an expected growth of 5.5% in 2023. Furthermore, as the brand accounts are increasingly becoming a critical way to build brand awareness and image, further research to understand what kind of content managers should make to get viewers' engagement become of increasing interest. Findings that can help managers make better use of their self-operated media channels is sought after and can make a huge impact on return on investment.

After the industry was decided, several criteria was chosen to help judiciously select sample brands. First, top technology brands worldwide in 2022 are identified by their values estimated by both Statista and Brandirectory. Some of the brands did

not have YouTube channels, however, those who had were kept as options. Second, if there was channels' that matched the target industry, and these brands had both uploaded at least one video per month and had released one popular video (more than 1 million views) in the last 12 months, the authors recorded that brand's channel name on YouTube and used it in our sample (Tellis et al., 2019). Our sampling process resulted in a sample of 15 brands listed below.

Table 1

Brands including percentage of data size

Brand Name	Frequency	Percent
Acer	2	0,5
Alienware	10	2,4
Cisco	4	0,9
DELL	7	1,7
Huawei Mobile	18	4,2
IBM Technology	18	4,2
Lenovo	24	5,7
LG nordic	10	2,4
Microsoft	28	6,6
Motorola	4	0,9
OPPO	26	6,1
Philips	1	0,2
Samsung	158	37,3
VIVO	11	2,6
Xiaomi	103	24,3
Total	**424**	**100**

3.3 Data collection

The data collection can be divided into two parts. For the dependent variables, the study relied on a quantitative machine learning approach. Specifically, the number of views, comments and likes as well as the video title and URL link across the selected brand's YouTube Shorts videos was collected by using the application programming interfaces (APIs) provided by Data Miner. The collection of metrics such as shares and dislikes are not collectable on YouTube, thus not included in the research. For the independent variables and moderators, the study relied on a qualitative content analysis approach. A content analysis deals with the operationalization of variables, which is an exhaustive, exclusive, and enlightening process (Krippendorff, 2018). Dummy variables were used to deconstruct the focal content in a way that made it analytically relevant (Shahbaznezhad et al., 2021). Two trained coders, blind to the purpose of the research, were employed for coding of each video independently.

In this research, the control variable known as the engagement effect was considered, which refers to the influence of views on likes and comments. Gupta et al. (2016) confirmed a positive relationship between views and likes, suggesting that videos with more views are likely to generate more likes, and vice versa. Therefore, in this study, the metric of likes/views was used to examine passive engagement, while comments/views were used as a metric to analyze active engagement. To ensure consistency, industry was controlled for by exclusively focusing on tech brands for our analysis, and platform by gathering all data from YouTube Shorts.

3.3.1 Criterion development

To ensure consistency, reliability and validity in the data collection, some pre-set criteria was set for each variable collected. To make these criteria, a short "training process" was done where both coders looked at a handful of randomly selected videos together, to come up with fitting rules for each of the variables. The rules were then written down and used when the initial "test sample" was collected. This

"training-session" combined with the rules functioned as a benchmark for comparison when the initial sample was collected.

The initial rules for the variables to count were as following:

Table 2

Description of rules for each coded variable

		Rule Description	Coding Rules
Video Type	Functional:	The video gives/shows information about a product or its attributes	If yes, code 1; if no, code 0
	Emotional:	The video has to aim to get the viewer to feel something, i.e., happy, exciting, funny, sad, etc.	If yes, code 1; if no, code 0
Brand Prominence	Loud:	The brand logo is very central in the video.	If yes, code 1; if no, code 0
	Quite:	The video does not have a brand logo very central.	If yes, code 0; if no, code 1
Content Richness	Music:	There has to be noticeable music.	If yes, code 1; if no, code 0
	People:	Human faces are shown.	If yes, code 1; if no, code 0
	Text:	No background text, only added text over the video.	If yes, code 1; if no, code 0
	Voice:	Human voice in the video.	If yes, code 1; if no, code 0
	Animal:	The video shows a real-life animal.	If yes, code 1; if no, code 0

3.3.2 Pilot study

After the training session, a pilot study was conducted with 67 videos from one of the targeted brands - Lenovo, to see whether there was a problem with the coding criteria in order to exclude any potential obstacles in the future (Saunders et al., 2009, p. 394).

After going through the initial test sample, the results were discussed. It was clear that the rules needed further development as both raters had encountered various gray areas and difficult decisions that the initial rules did not take into account. Discrepancies were reviewed, before definitions were clarified and further developed to minimize future discrepancies in the coding of all the content (Tellis et al., 2019). New rules was set in place for the main data collection and were as following; with included examples that are close to the initial "gray area":

Table 3

Updated description of rules for each coded variable, including examples

		Rule Description	Coding Rules
Video Type	Functional:	The video gives/shows information about a product or its attributes. Showing a product in the video is not enough, and it must show some functions that are not typical for all similar products. An example of something that is not good enough is a computer being turned on. However, if the computer for example has a unique starting method, it is valid.	If yes, code 1; if no, code 0
	Emotional:	The video must aim to make the viewer feel something. Furthermore, the feeling the viewer gets, must be possible to explain. An example of something that is not good enough is a person smiling. However, if it is a group of people laughing and having a good time, that is good enough as it aims to create a happy feeling.	If yes, code 1; if no, code 0
Brand Prominence	Loud:	Brand logo should be very central. The brands sound cue, and/or someone saying the brand name multiple times does also count. Brand exposure, compared to the video length is also important. If the brand is shown with a sound cue in the beginning, but the video is 30+ seconds, it does not count as the brand is not in focus throughout the video. However, if the same video is below 30 seconds, it does count.	If yes, code 1; if no, code 0
	Quite:	Brand logo is not central. If the brand is shown with a sound cue in the beginning, but the video is 30+ seconds, it does count as the brand is not in focus throughout the video. However, if the same video would have been 30 seconds, it does not count.	If yes, code 0; if no, code 1

	Music:	There must be noticeable music and not just background noise. An example of a video that is not good enough is if it has an overlay of random sound in the background. However, if it is an overlay of sound in a musical pattern, it is enough as the viewer will be engaged in the rhythm.	If yes, code 1; if no, code 0
	People:	Human faces are shown. A picture of someone's face on a screen is not enough as it does not take any attention. However, a video on the screen would count, as the movement catches the viewer's attention.	If yes, code 1; if no, code 0
Content Richness	Text:	The text must be added to the video during editing or be an important part of the video. A computer background with text is not enough. However, if the text is dynamic and changing accordingly with the video subject it counts.	If yes, code 1; if no, code 0
	Voice:	The video has a human voice that speaks real words. Someone laughing is not counted, however, someone saying "wow" does count.	If yes, code 1; if no, code 0
	Animal:	The video shows a real-life animal. A picture of an animal on a screen does not count, however, if it is a video of the animal it counts, as it grabs the viewer's attention. Furthermore, animated animals are not counted.	If yes, code 1; if no, code 0

Throughout the data collection, clear and specific timelines were set to ensure each other's progress as well as the thesis itself. It was also a focus on ongoing communication and feedback if some videos were unclear or any other details wanted to be discussed.

3.3.3 Data collection

After the pilot study, data collection started by using the previously set criteria. Data was captured across videos posted in a time span of 2.5 years from Sep 20, 2020, to May 20, 2023, including all videos posted and their corresponding engagement metrics of views, likes and comments. The initial dataset contained 954 videos. However, some videos were removed due to hidden numbers of likes and comments. In the end, the data collected consisted of 800 videos rated by two individual raters.

The interrater reliability was calculated for all independent variables and moderators using Cohen's kappa correlations (McHugh, 2012). In this study Cohen's kappa correlations were 0.79, thus, although many characteristics of content were rated on binary scales, the level of agreement observed is high. Furthermore, the overall interrater reliability-percentage was 89.56%, and the detailed reliability for each variable is shown in the appendix.

Table 4

Cohen´s Kappa Correlations

	Value	Significance
Measure of agreement Kappa	0.791	0.00***

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

To only include videos that were representative for the study, the 800 observations was filtered to include those the raters agreed 100% on. Then, the coders rewatched some videos where the coding did not match to reach an agreement on controversial points and gray areas in the videos, and either agreed or removed those videos. Furthermore, the videos which did not qualify for our research purpose was removed. For example, if the video is neither functional nor emotional, this data was removed. In the end, 424 videos (Table 1) were left to study both passive and active engagement.

3.3.4 Data cleaning

After the final dataset was collected, data was cleaned for the purpose of analysis. As all variables were in their own column, coded as dummy variables, a column in the dataset called Functional_Emotional was mutated. This column was meant to collect those videos that were both functional and emotional, which was done by multiplying the functional and the emotional column. Then, three columns called Functional, Emotional, and Functional_Emotional were filtered and regrouped to be able to study their individual effect on users' engagement behavior.

Furthermore, another column was mutated to calculate how many content-rich elements were shown in each video. This new column was further regrouped into three layers consisting of videos with 0-1 content element as 1, videos with 2-3

content elements as 2, and videos with 4-5 elements as 3. This regrouping was to separate low, medium and high content rich videos.

To further explore the interaction between content type and video content, another 6 variables was mutated in SPSS by multiplying Functional × Brand_Prominence, Functional × Content_Richness, Emotional × Brand_Prominence and Emotional × Content_Richness, Functional_Emotional × Brand_Prominence, Functional_Emotional × Content_Richness.

To further compare different content types, three dummy variables was made, Functional_dummy, Emotional_dummy, and Functional_Emotional_dummy.

Moreover, to minimize the bias caused by the number of views, the study use likes/views as the metric of passive engagement, and comments/views as the metric of active engagement.

After that, the dataset was put into SPSS to standardize the passive and active engagement metric, and then Mahalanobis Distance was used to identify multivariate outliers.

3.4 Data analysis

3.4.1 Data characteristics - descriptive statistics

Descriptive statistics was used in SPSS to gain some insights about the collected data. The descriptive results were as following:

The whole dataset has 424 observations across 15 brands. The table below summarizes the distribution percentage for each category.

Table 5

Data distribution percentage.

		Percentage
Content type	Functional	70.8
	Emotional	7.3
	Functional_Emotional	21.9
Brand Prominence	Quiet	63.2
	Loud	36.8
Content Richness	Low	7.3
	Medium	74.1
	Hight	18.6
Average result	Passive_engagement	0.044
	Active_engagement	0.0012

3.4.2 Linear regression analysis

To examine the relationship between one variable and several others, a multiple regression analysis was conducted (Malhotra, 2010, p. 560). To examine the first and second hypothesis, two linear regression models were made in SPSS. One with active engagement as our dependent variable, brand prominence and content richness as our independent variable. And the other with the same independent variables but passive engagement as the dependent variable. The results and formulas are shown below:

Table 6

Results from multiple regression analysis for Brand Prominence and Content Richness

		Passive (Likes/Views)		Active (Comments/Views)	
		Unstandardized β	Significance	Unstandardized β	Significance
	(constant)	-0.472	0.064	-0.641	0.012*
Moderator	Brand_ Prominence	0.120	0.232	0.161	0.109
	Content_ Richness	0.145	0.137	0.199	0.041*

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

$$Passive\_engagement = \beta0 + \beta1 \times Brand\_Prominence + \beta2 \times Content\_Richness + \varepsilon$$

$$Active\_engagement = \beta0 + \beta1 \times Brand\_Prominence + \beta2 \times Content\_Richness + \varepsilon$$

The results show that quiet brand prominence and high brand prominence had no significant difference on affecting active and passive engagement (Both P-value > 0.05). For content richness, it had no significant difference on affecting consumers passive engagement (P-value = 0.137), however, it has a positive significant difference on affecting consumers active engagement, where β = 0.199, P-value = 0.041. This can be explained as; when the content richness changes from low to high, the active engagement will be increased.

Thus, hypothesis 1 that Loud brand prominence videos negatively stimulates users' passive and active engagement behavior compared to videos with quiet brand prominence has been rejected. However, hypothesis 2 that high content richness videos positively stimulates users' passive and active engagement behavior compared to videos with low content richness has been partially supported.

To examine hypothesis 3a; that functional videos positively stimulate users' active engagement behavior compared to emotional videos, two dummy variables were used for studying content type, and the pure emotional variable was used as a reference to conduct a linear regression analysis The results and formula are shown below:

Table 7

Results from multiple regression analysis for Functional, Emotional and Functional_Emotional, Functional and Emotional as reference

		Passive (Likes/Views)		Active (Comments/Views)	
		Unstandardized β	Significance	Unstandardized β	Significance
	(constant)	-0.045	0.432	0.538	0.012*
Independent Variables	Functional	reference	reference	-0.573	0.002**
	Emotional	0.203	0.281	reference	reference
	Functional_Emotional	0.139	0.242	-0.602	0.004**

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

$$Active\_engagement = \beta0 + \beta1 \times Functional\_dummy + \beta2 \times Functional\_Emotional\_dummy + \varepsilon$$

The results show that compared with pure emotional videos, functional videos negatively stimulate users' active engagement, where β = -0.573, P-value = 0.002. Thus, hypothesis 3a has been rejected.

To examine hypothesis 3b that the relationship between the presence of functional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness. A multiple linear regression analysis was conducted with interaction terms Functional × Brand_Prominence and Functional × Content_Richness. The results and formulas are shown below:

Table 8

Results from multiple regression analysis for interactions for Functional×Brand_Prominence and Functional×Content_Richness

		Passive (Likes/Views)		Active (Comments/Views)	
		Unstandardized β	Significance	Unstandardized β	Significance
	(constant)	-0.092	0.917	0.208	0.597
Moderator	Brand_Prominence	0.100	0.615	0.231	0.238
	Content_Richness	0.034	0.821	-0.193	0.188
Independent Variables	Functional	-0.632	0.226	-1.532	0.003**
Interactions	Functional×Brand_Prominence	0.060	0.797	-0.038	0.868
	Functional×Content_Richness	0.184	0.353	0.681	<0.001***

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

$$Passive\_engagement = \beta0 + \beta1 \times Brand\_Prominence + \beta2 \times Content\_Richness + \beta3 \times Functional + \beta4 \times Functional \times Brand\_Prominence + \beta5 \times Functional \times Content\_Richness + \varepsilon$$

Active_engagement = β0 + β1 × Brand_Prominence + β2 × Content_Richness + β3 × Functional + β4 × Functional × Brand_Pominence + β5 × Functional × Content_Richness+ε

The results show no moderator effect on passive engagement as all the variables have p-value larger than 0.05. However, the relationship between functional videos and active engagement has been strengthened by content richness, where $β = 0.681$, p-value < 0.001. This can be explained as; high content richness (compared with low content richness) in functional videos make the video have better active engagement results. Thus, the results are partially supported.

A similar method is used to examine hypothesis 4a and hypothesis 4b as in hypothesis 3a and hypothesis 3b, however, now functional video is used as reference. Results are shown in Table 7 and formula are shown below:

Passive_engagement = β0 + β1 × Emotional_dummy + β2 × Functional_Emotional_dummy+ε

The results show that compared with functional videos, emotional videos have no significant difference on stimulating users' passive engagement behavior (P-value = 0.281). Thus, hypothesis 4a that emotional videos positively stimulate users' passive engagement behavior compared to functional videos has been rejected.

For examining Hypothesis 4b, the interaction terms Emotional × Brand_Prominence, and Emotional × Content_Richness were mutated and used in a multiple regression analysis. The results and formulas are shown below:

Table 9

Results from multiple regression analysis for interactions for Emotional×Brand_Prominence and Emotional×Content_Richness

		Passive (Likes/Views)		Active (Comments/Views)	
		Unstandardized β	Significance	Unstandardized β	Significance
	(constant)	-0.633	0.012*	-0.743	0.005**
Moderator	Brand_Prominence	0.135	0.197	0.126	0.223
	Content_Richness	0.220	0.030*	0.250	0.013*
Independent Variables	Emotional	2.458	0.010*	1.375	0.143
Interactions	Emotional×Brand_Prominence	-0.215	0.565	0.272	0.463
	Emotional×Content_Richness	-0.957	0.010*	-0.575	0.115

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

Passive_engagement = β0 + β1 × Brand_Prominence + β2 × Content_Richness + β3 × Emotional + β4 × Emotional × Brand_Prominence + β5 × Emotional × Content_Richness+ε

Active_engagement = β0 + β1 × Brand_Prominence + β2 × Content_Richness + β3 × Emotional + β4 × Emotional × Brand_Prominence + β5 × Emotional × Content_Richness+ε

The result shows that there is no significant moderator effect on active engagement as all the variables p-values are larger than 0.05. However, the relationship between emotional videos and passive engagement has been weakened by content richness, where β = -0.957, p-value = 0.01. This can be explained as; high content richness (compared with low content richness) in emotional videos makes the video perform worse in terms of passive engagement. Thus, hypothesis 4b has been partially supported.

Again, a similar method is used to examine hypothesis 5a and hypothesis 5b. In the analysis, videos with functional and emotional features were used as reference. The results and formulas are shown below:

Table 10

Results from multiple regression analysis for Functional, Emotional and Functional_Emotional, Functional_Emotional as reference

		Passive (Likes/Views)		Active (Comments/Views)	
		Unstandardized β	Significance	Unstandardized β	Significance
	(constant)	0.094	0.367	-0.064	0.533
Independent Variables	Functional	-0.139	0.242	0.028	0.809
	Emotional	0.064	0.756	0.602	0.004**
	Functional_Emotional	reference	reference	reference	reference

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

Passive_engagement = β0 + β1 × Emotional_dummy + β2 × Functional_dummy+ε

Active_engagement = β0 + β1 × Emotional_dummy + β2 × Functional_dummy+ε

The results show that compared with pure functional videos and pure emotional videos, Functional_Emotional videos has no significant difference on stimulating users' passive engagement behavior (P-value >0.05). Furthermore, in terms of active engagement, Functional_Emotional videos show no significant difference from Functional video, however, Functional_Emotional videos shows a negative significant effect on active engagement when compared with pure emotional video. Thus, hypothesis 5a that functional and emotional videos positively stimulate users' active and passive engagement behavior compared to either functional or emotional video, is rejected.

For examining hypothesis 5b, the interaction terms Emotional_Functional × Brand_Prominence, and Emotional_Functional × Content_Richness were mutated and used in a multiple regression analysis. Formulas and results are shown below:

Table 11

Results from multiple regression analysis for interactions for Functional_Emotional×Brand_Prominence and Functional_Emotional×Content_Richness

		Passive (Likes/Views)		Active (Comments/Views)	
		Unstandardized β	Significance	Unstandardized β	Significance
	(constant)	-0.421	0.181	-1.093	<0.001***
Moderator	Brand_ Prominence	0.132	0.240	0.216	0.052
	Content_ Richness	0.101	0.414	0.387	0.002**
Independent Variables	Functional_ Emotional	-0.081	0.882	1.260	0.020*
Interactions	Functional_ Emotional× Brand_ Prominence	-0.004	0.989	-0.245	0.363
	Functional_ Emotional× Content_ Richness	0.098	0.637	-0.475	0.021*

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

Passive_engagement = β0 + β1 × Brand_Prominence + β2 × Content_Richness + β3 × Functional_Emotional + β4 × Functional_Emotional × Brand_Prominence + β5 × Functional_Emotional × Content_Richness+ε

Active engagement = β0 + β1 × Brand_Prominence + β2 × Content_Richness + β3 × Functional_Emotional + β4 × Functional_Emotional × Brand_Prominence + β5 × Functional_Emotional × Content_Richness+ε

The results show that there is no significant moderator effect on passive engagement as all the variables p-values are larger than 0.05. However, the relationship between Emotional_Functional videos and active engagement has been weakened by content richness, where β = -0.475, p-value = 0.021. This can be explained as; high content richness (compared with low content richness) in Emotional_Functional videos makes the video have less active engagement. Thus, hypothesis 5b that the relationship between the presence of emotional and functional social media content

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and social media engagement behavior is moderated by (a) brand prominence and (b) content richness, is partially supported.

3.4.3 Independent sample t-test

To further explore which combination of content richness works better on active engagement in functional videos, all pure functional videos with high content richness are filtered together. This resulted in two combinations of content richness, one is Music+ Text + People + Voice, and the other is Music+ Text+ People+ animal. The combinations were regrouped and used in an independent sample t-test to examine whether they have significant differences on stimulating active engagement. The results are shown below:

Table 12

Results from Independent sample t-test for Functional videos with Music+Text+People+Voice and Music+Text+People+Voice

Active engagement	Music+Text+People+Animal	Music+Text+People+Voice
N	5	39
Mean	0.00097	0.00201
F (equal variance assumed)	5.479	
Significance	0.024*	

(Significance level of significant variables: ***p <0.001, **p <0.01, *p <0.05)

By checking the Levene's test of equality of variances with equal variances assumed, the result showed that F= 5.479 (P<0.05), which indicates the two high content richness combinations have significantly different results on active engagement. The means of group 1 (Music+ Text+ People+ Animal) (M=0.001) is smaller than that of group 2 (Music+ Text+ People+ Voice) (M=0.002). Thus, it can be concluded that for functional video, the combination of Music, Text, People, and Voice show the best positive performance effect on active engagement.

To further explore which combination of low content richness works better on passive engagement in terms of emotional videos, all pure emotional videos with

low content richness are filtered together. After filtering, three combinations were left that qualified based on our requirements. Those three are emotional videos with music, emotional videos with people and emotional videos that does not contain any of the studied variables under content richness. The results are shown below:

Table 13

Results from Independent sample t-test for Emotional videos with Music, People and No element

Passive engagement (Emotional)	Music	People	No Element
N	1	1	1
Mean	0.0568	0.0415	0.082

The result showed that emotional videos with no content rich elements has best performance out of the three combinations ($M = 0.082$). However, this result is not representative, as the sample in each group is too small.

To further explore which combination of low content richness works best on active engagement in terms of functional and emotional videos, all Functional×Emotional videos with low content richness are filtered together. Four different combinations were found that satisfy our requirements. Those four are functional and emotional videos with music, with voice, with people and videos that does not contain any of the chosen variables under content richness. The results are shown below:

Table 14

Results from Independent sample t-test for Functional_Emotional videos with Music, Voice, People and No element

Passive engagement (Emotional)	Music	Voice	People	No Element
N	4	3	1	3
Mean	0.0001	0.0017	4.02E-06	0.0015

The results show that functional and emotional videos with voice have the best performance out of the four combinations (0.0017). However, this result is not representative, as the sample in each group is too small.

3.5 Summary of results

The analysis aimed to examine various relationships and hypothesis related to brand prominence, content richness, content type and their impact on passive and active engagement behavior.

From the first and second hypothesis, the findings showed that both high and quiet brand prominence had no significant effect on either active or passive engagement, thus hypothesis 1 is rejected. Similarly, for content richness there was no significant impact on passive engagement, however high content richness had a positive significant effect on active engagement making hypothesis 2 partially supported.

For hypothesis 3a, findings showed that functional videos do not positively stimulate active engagement compared to emotional videos, rather the opposite was found, that functional videos negatively stimulate active engagement, thus hypothesis 3a is rejected. Furthermore, hypothesis 3b tested if there was a moderator effect between functional videos and content richness, and functional videos with brand prominence. No significant moderator effects were found on brand prominence. However, high content richness has a significant positive effect on users' active engagement in functional videos, thus hypothesis 3b was partially supported.

Moving to hypothesis 4a, the authors tested if emotional videos positively stimulate passive engagement compared to functional videos. Findings show that there is no significant difference, thus hypothesis 4a is rejected. Furthermore, hypothesis 4b tested if there was a moderator effect between emotional videos and content richness, and emotional videos with brand prominence. The finding shows that content richness weaken passive engagement on emotional videos, thus hypothesis 4b is partially supported.

For hypothesis 5a, it was tested if functional and emotional videos positively stimulated both active and passive engagement compared to either functional or emotional videos. Findings show that there are no significant effects, thus hypothesis 5a is rejected. Furthermore, high content richness showed a negative impact on active engagement in the videos with both functional and emotional appeals, making hypothesis 5b partially supported.

In the end, what combination of content rich elements performed the best was tested. For functional videos the combination of music, text, people and voice showed the best performance on active engagement. For emotional videos, including no content rich elements performed the best on passive engagement. And for the combination of functional and emotional videos, the videos that included voice performed the best. However, for emotional and functional × emotional videos, the sample size was too small to be representative. Results are listed in the table below for a better overview:

Table 15

Hypothesis with conclusion

Hypothesis		Conclusion
H1:	Loud brand prominence videos negatively stimulates users' passive and active engagement behavior compared to videos with quiet brand prominence	**Not supported**
H2:	High content richness videos positively stimulates users' passive and active engagement behavior compared to videos with low content richness	**Partially supported**
H3a:	Functional videos positively stimulate users' active engagement behavior compared to emotional videos.	**Not supported**
H3b:	The relationship between the presence of functional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness.	**Partially supported**
H4a:	Emotional videos positively stimulate users' passive engagement behavior compared to functional videos.	**Not supported**
H4b:	The relationship between the presence of emotional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness.	**Partially supported**
H5a:	Functional×Emotional videos positively stimulate users' active and passive engagement behavior compared to either functional or emotional video.	**Not supported**
H5b:	The relationship between the presence of emotional and functional social media content and social media engagement behavior is moderated by (a) brand prominence and (b) content richness.	**Partially supported**

Table 16

Results for each variable, with conclusion

Variables	Conclusion
Functional videos	- Have a negative significant effect on active engagement. - Positively moderated by content richness on active engagement.
Emotional videos	- Have a positive significant effect on passive engagement. - Negatively moderated by content richness on passive engagement. - Have a better performance on stimulating active engagement when compared with both pure functional and functional_emotional videos.
Functional_Emotional videos	- Have a positive significant effect on active engagement. - Negatively moderated by content richness on active engagement.
Brand Prominence	- Have no significant effect on active or passive engagement.
Content Richness	- Positively moderate active engagement of functional videos. - Negatively moderate passive engagement of emotional videos. - Negatively moderate active engagement of functional_emotional videos.

4.0 Discussion

The evolution of technology continuously brings significant transformations in communication tools and strategies. These changes have had a massive impact on marketing practices. With a limited attention span combined with an overload of information, correct content marketing plays a crucial role in capturing consumers' attention (Baltes et al., 2015). It brings numerous benefits for effective outreach and brand building (Sabate et al., 2014). In this evolution, videos continue to be a main priority as it is an increasingly popular way to consume media among the average population (Sedej, 2019). Understanding how platforms like YouTube Shorts function becomes increasingly essential for navigating the digital marketing environment; marketers will not succeed unless they understand how to effectively navigate the social space to achieve high returns on their investment (Lee et al., 2014).

In this discussion, the authors carefully consider, explain and discuss the most relevant findings from the study and explain how they might be used as theoretical and managerial contributions.

4.1 Findings

The primary objective of this study is to provide insights into how different content types affect consumers' social media active and passive engagement with brand prominence and content richness as moderators. Overall, half of our hypothesis are rejected, and those that are left are partially supported.

Regarding hypothesis 1, our result reveals that both quiet and loud brand prominence had no significant effect on active or passive engagement. However, this finding is inconsistent with the previous studies. Matthes et al. (2007) found that brand prominence gives negative attitudes among viewers who has low involvement but positive when the viewers have high involvement. Furthermore, Teixeira et al. (2010) found that high brand prominence makes consumers resistant to the message. However, some assumptions might explain why our analysis results are different from previous studies. One of the reasons behind this finding might be the fact that the viewers expect persuasion as the videos are posted on branded

accounts. Thus, the level of prominence in the video does not affect the viewer since they are in a defensive position from believing they are being persuaded from the start (Friestad & Wright, 1994).

Moreover, the effectiveness of brand marketing in videos can vary based on factors such as the target audience, the nature of the brand, the content quality, and the overall video strategy (Matthes et al., 2007). While the PKM provides insights into how individuals respond to persuasive attempts, real-world outcomes may be influenced by additional factors and nuances. Suppose brand prominence shows no significant adverse effect on engagement. In that case, it is wise for marketers to adjust their video strategy and use loud brand prominence to create brand awareness, as studies have shown that loud brand prominence is straightforward and favorable for recall at the time of purchase (Teixeira et al., 2010) and on brand memory (Van Reijmersdal, E, 2009). However, it is worth noticing that our dataset has some limitations that marketers should consider when using this conclusion.

For hypothesis 2, our findings showed that high content richness videos positively stimulate active engagement compared to videos with low content richness. Our finding are similar to the finding by Li and Xie (2020), who found that image content that included visual cues such as color and composition significantly impacted social media engagement, as well as the findings by Overgoor et al. (2022) that consumers prefer complex social media images over simple ones. However, These studies focus on images, and when compared to videos, previous studies have shown that the content type plays a crucial role, as the findings by Sabate et al. (2014) showed that video content increases passive engagement, but not active engagement compared to photos.

Similarly, Kim et al. (2015) found videos to stimulate lower overall engagement than photos. Different research goals make it difficult to compare, however, our results might be explained by how the number of elements might not be the main reason for explaining engagement behavior. Instead, storytelling and how the elements are incorporated might be more important, building on findings by Dobrian et al. (2011), that high-quality videos with compelling content are more engaging.

In terms of active engagement, high content richness brings more active engagement. One reason might be that including more video elements gives the viewer more impressions, similar to findings by Tellis et al. (2019), where elements like drama, plot, and surprise functioned as emotional triggers leading to more active engagement. Li and Xie (2020) also mentioned that videos that evoke strong emotions like happiness, excitement, or sadness tend to generate higher engagement rates on social media platforms. Thus, marketers should not be blind to add more elements in the video to increase engagement.

Hypothesis 3a is rejected, as a result, showed that functional videos have a significant negative effect on active engagement compared with emotional videos. This result stands in contrast to the study by Taylor et al. (2011), which revealed that consumers react favorably to advertising perceived as offering information of value, as many of the functional videos on tech channels do just that. Similarly, our findings contradict Dolan et al. (2019), who found rational appeals to have a superior effect in facilitating active and passive engagement among social media users.

However, our findings are also supported by the study by Lee et al. (2014), which found that informative content would reduce engagement. Finally, Coelho et al. (2016) have findings in the middle as they found no significant relationship between the effect of rational content on engagement. Even though there are a lot of contradicting findings, the use of the emotional contagion theory can explain our results. When viewers see others expressing their emotions or opinions in the comment section, they may feel encouraged to participate and join the conversation, increasing the active engagement for inspirational videos. Berger and Milkman (2012) and Shahbaznezhad et al. (2021) explained similarly and found emotional videos to stimulate active engagement. Emotional videos can create a feedback loop where the presence of comments prompts even more people to comment. While functional videos may serve a specific purpose, such as providing information or demonstrating a process, they may not evoke the same response or personal connection as emotional videos. Therefore, viewers may be less inclined to comment on functional videos, resulting in lower comment engagement compared to emotional content.

For hypothesis 3b, our results show that high content richness has a significant positive effect on active engagement compared to low content richness in functional videos. This finding has similarities with Overgoor et al. (2022) findings that consumers prefer complex social media images over simple ones. They further suggest that complex images capture attention and create interest leading to more engagement. Our findings might also be explained by how the elements in high content richness contribute to making the functional videos have a better "story". Confirmed by Huang (2010), who describes storytelling as a powerful tool for building brand image. In detail, elements like text and voice might make it easier for the consumer to follow an introduction of a product, especially if there are some language barriers, making it easier to understand the functionality of the product, once again similar to finding by Tellis et al. (2019). Thus, if the viewer has questions towards the content in the video, it might be easier for the audience to leave a comment. Tellis et al. (2019) also mentions that content rich-elements making drama, plot and surprise can trigger emotion and in turn lead to active engagement (i.e., sharing), supporting our findings.

Hypothesis 4a contradicts most previous studies as our findings show that emotional videos do not significantly positively affect passive engagement compared to functional videos. Emotional videos do, however, perform the best among the three content types. Berger and Milkman (2012) found that positive or negative emotions are more likely to go viral; furthermore, Dolan et al. (2019) have the complete opposite findings as us when they explain that emotional appeals facilitate passive rather than active engagement behavior. Similarly, Helmig and Thaler (2010) found rational and emotional appeals to increase the target audience's response levels.

However, Shahbaznezhad et al. (2021) is the only study with somewhat similar findings as ours, explaining that emotional videos stimulate active engagement while photos stimulate passive. Our findings might result from the simplicity of passive engagement, as it only requires the consumer to press one button. Consequently, the consumer might not fully contemplate their actions before engaging, leading to similar levels of passive engagement for both functional and

emotional videos. Thus, for generating passive engagement, both videos with functional appeal and emotional appeal work.

For hypothesis 4b, our result shows that loud content richness negatively affects passive engagement in terms of emotional videos. Like Overgoor et al. (2022), our explanation for this finding is that audiences who watch short emotional videos watch them just for entertainment purposes, such as to have fun or relax. However, with high content richness, the content would be too complex to digest quickly and can lead to confusion and decreased liking. Thus, short emotional videos better convey simple, straightforward, unambiguous messages, which is more appropriate for lean media with fewer content-rich elements. For marketers that make emotional videos, they should not aim to put as many content elements as possible into the video to make it "Emotional"; however, they might instead focus on how to build an exciting and understandable "story" to catch the audience's attention as mentioned by Tellis et al. (2019).

Hypothesis 5a is rejected as videos with both functional and emotional features did not outperform pure emotional videos in terms of engagement as assumed in the theoretical framework. The only previous study on the combination effect between functional and emotional videos contradicts our findings as Ruiz and Sicilia (2004) found that a mix between the two tones could generate more effective attitudes than one of the types individually. We do however believe our result is because of sensory overload among the consumers, and that the videos incorporating different appeals would make the videos too complex for the audience to digest in a short time span, leading to confusion and decreased engagement, which is similar to previous explanation in the finding for hypothesis 4b.

Similarly, hypothesis 5b showed that high content richness (compared with low content richness) in Emotional_Functional videos makes the video have worse active engagement results, which further strengthens our explanation for hypothesis 5a. This finding is still quite interesting, as it confirmed the fact that the consumer might get a sensory overload and that it is not always good to include both content types as well as multiple content rich elements in one video, especially as the length of the videos are very short. Thus, for marketers who operate brand accounts on the

YouTube Shorts, it is better to make an emotional video with interesting and understandable storytelling rather than adding too many elements in the videos. Content richness elements might be beneficial for good storytelling, however, to have a good story does not necessarily mean it has to include as many elements as possible.

Our further exploration of the combinations of different content elements showed that for functional videos, the combination of content element music+text+voice+people showed the best engagement performance, while videos with no content rich elements showed the best performance in terms of emotional videos. For the Functional_Emotional videos, including voice showed the best performance. However, it is worth noting that findings related to the combination of different content elements is not necessarily representative and reliable, as the results are limited to a small sample size. It might however still provide some insights to the understanding of how the combination of content elements positively influence engagement in the future.

4.2 Theoretical and managerial contributions

4.2.1 Theoretical contributions

The theoretical understanding of content marketing in short videos is sparse, and how to best facilitate engagement does not have any clear recipe. Hence, the examination of engagement on brand-owned social media accounts within the tech industry on YouTube Shorts can contribute to theoretical advancements by expanding existing frameworks and identifying gaps in previous literature, providing interesting findings for researchers and academics.

1. Previous studies on social media engagement are mainly based on platforms such as Facebook, Twitter, and Instagram. However, with the emergence of short videos, the results of previous literature need further investigation. This research provides some interesting findings based on YouTube Shorts; a platform that has rarely been studied before. Consequently, this research offers fresh insights into social media

engagement by shedding light on this relatively new and understudied platform.

2. Previous studies on content type in terms of videos with both functional and emotional appeals is quite rare, and our study has opposite findings to the existing one by Ruiz and Sicilia (2004) where the campaign with mixed appeals showed better performance than a campaign with only one appeal (Functional or Emotional). Our findings give some insights into the further study of this field, and by looking at how content type in the format of short videos affects customers' social media engagement, this thesis have advanced theory within media effects and the understanding of consumer engagement.

3. The tech industry is one of the most influential and biggest industries in the world (Flynn, 2023), However, previous studies towards social media engagement are mainly based on the tourism, food and beverage industry, etc. and there has not been any field specific research for engagement in the tech industry that we are aware of. Thus, our findings in this field are new and contribute to the theoretical contextualized understanding of engagement within the industry.

4.2.2 Managerial contributions

Social Media brand accounts are becoming increasingly critical to build brand awareness and attitude. Thus, understanding what kind of content managers should make to create engagement is of increasing interest, making the findings in this study ever so important. The study looks at both active and passive engagement and how different variables might achieve one or the other, providing fruitful insights for managers planning content marketing strategies in the shorts.

1. The finding from hypothesis 1, that brand prominence shows no significant negative effect on engagement on brand accounts, can be valuable for managers who seek to build brand awareness. This insight enables managers

to make brand prominent videos without worrying about its effect on engagement.

2. When it comes to content richness, previous studies show that complex and high-quality videos perform the best (i.e., Dobrian et al. 2011; Overgoor et al. (2022). However, after investigating different content types, it was found that content richness as a moderator works differently on users' engagement when it comes to different content types. For example, key findings confirmed that high content richness fit well in functional videos but does not always work in emotional videos. This can help widen marketers' understanding of the relationship between content type and users' engagement behavior. Revealing that when managers are making videos, it is not always good to make complex videos with many content-rich elements.

3. Our findings toward the videos with both functional and emotional appeals can be of guidance for managerial marketing decisions like spending and content creation. Opposite to the findings made by Ruiz and Sicilia (2004) that campaigns with a mix of emotional and rational/informational tones could generate more effective attitudes than when these appeals are used separately, our study shows that videos with both functional and emotional appeals do not perform better in terms of engagement than videos with pure emotional appeal in short videos. Thus, for marketers who operate brand accounts on the YouTube Shorts, it is an interesting finding to help them design their video content.

4. Our study also elaborate on the understanding of the best combination of content richness in terms of different types of videos. Our findings show that for functional videos the combination of content element music+text+voice+people performed the best, while for emotional videos, including no content rich elements performed the best and for videos with interaction between functional and emotional appeals, adding a voice performed the best.

These findings provide marketers with guidance when making their videos. Managers need to notice that the purpose of adding different content elements in videos is to create good storytelling, however, to have a good story does not necessarily mean it has to include as many elements as possible. Thus, marketers should not be blind to add more elements in the video in order to increase engagement.

5.0 Limitations and future research

5.1 Limitations

Several limitations have been identified during the research due to time and resource limitations.

Firstly, this study focused only on video content on YouTube Shorts and did not look at content on other platforms, making it difficult to see if the findings are reliable compared with other social media platforms. Secondly, this study only explored video samples from mainstream brand accounts within the tech industry and did not consider any other industry. Thus, lowering the generalizability as it has not been compared with other fields. Thirdly, this study chose likes/views as passive engagement and comments/views as positive engagement. The study does, however, not consider other relevant engagement metrics, such as clicks, shares, and subscriptions, which might have given a deeper understanding.

Fourthly, in terms of emotion, the study only considers if the videos have or do not have any emotion. It did not consider which emotions would affect engagement, thus lowering the study's reliability and validity. Fifthly, in order to have a high interrater reliability, the coders only used 0 and 1 to code most of the independent variables, which led to a less specific conclusion than adding multiple layers would have done. Sixthly, although this study explored the best combination of content elements in different types of videos, the results are limited to the sample size and uneven data distribution.

Lastly, for some simplicity reasons, the model only considers the variables that would affect engagement from the video. At the same time, other factors, such as brand preference and the interaction between engagement variables, should also be considered to study engagement.

5.2 Suggestions for future research

In this study, the main focus was on the brand channels, but it would also be interesting to learn how paid advertising (i.e., in-stream ads) on influencer channels might affect engagement. For example, is the paid sponsorship fit with the channel a good thing? More detailed elements, such as different kinds of emotions as well as the content richness should be studied to further understand how they affect the engagement specifically.

Furthermore, a promising area for future research would be to investigate the impact of video content on platforms like YouTube Shorts on consumers' purchase intentions. The study could delve into the same characteristics as this study, while giving the understanding even more depth by examining more characteristics such as video length, emotional appeals and multiple levels of prominence, but in the end research how these factors influence consumers' perceptions and attitudes towards the advertised products or services leading to the influence on purchase intention rather than social media engagement. Such research could help marketers optimize their video content with the goal of enhancing purchase intentions building on both theoretical and managerial contributions.

In addition, future studies should consider short videos from other platforms, such as TikTok, as well as include other industries, such as FMCG, and further explore how the customers' engagement behavior would be affected by platform and industry. Meanwhile, other forms of metrics related to engagement, such as sharing, clicks and impressions, should also be studied to deepen the understanding of consumer engagement behavior.

Lastly, except for the method used in this study to collect data, future research can consider using the experiment or interview method to study engagement-related topics to further examine the results found in this study.

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7.0 Appendices

Appendix 1

Rater cross-tabulation

Count		Rater 2		
		0	1	Total
Rater 1	0	2830	406	3236
	1	263	2900	3163
	Total	3093	3306	6399

Appendix 2

Interrater reliability

		Percentage
Content Type	Functional	83.9
	Emotional	82.3
Brand Prominence	Loud/Quiet	63.2
Content Richness	Music	99.1
	Text	86.5
	Voice	97.5
	Animal	97.6
	People	94.3
Overall		89.6

Appendix 3

The levels of Cohens' Kappa (McHugh, 2012)

No agreement	0
None to slight	0,01-0,20
Fair	0,21-0,40
Moderate	0,41-0,60
Substantial	0,61-0,80
Almost Perfect	0,81-1